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## NEW DATA ON THE NOCTUIDAE AND EREBIDAE OF THE SALENTO (SOUTH ITALY) (LEPIDOPTERA, NOCTUIDAE)

### RIASSUNTO

Questo è il secondo contributo alla conoscenza dei Noctuoidea del Salento e tratta i dati di tre sottofamiglie estrapolate dal lavoro generale sui Noctuidae e sugli Erebidae del Salento, ancora in preparazione.

Il materiale su cui si basano le osservazioni è conservato nella collezione del Museo di Storia Naturale del Salento (MSNS) e nella collezione privata del primo autore.

Metodi di raccolta e procedure di dissezione dei genitali sono descritti in DURANTE e POTENZA (2016).

Questa ricerca è stata condotta nella Penisola Salentina, in particolare nella parte meridionale, come meglio specificato in DURANTE e POTENZA (2016).

Nonostante un alto grado di antropizzazione, la Penisola del Salento appare sempre una terra sorprendente. Nel precedente articolo (DURANTE e POTENZA, 2016) gli autori hanno esaminato le tribus Hadenini e Glottulini (sottofamiglia Hadeninae Guenée, 1837, *in sensu vetus*, attualmente in Noctuinae Latreille, 1809), riscontrando la presenza del 56% della fauna dell'intera Puglia. Il presente studio conferma quel dato, essendo la percentuale totale delle tre sottofamiglie (ossia Heliiothinae + Catocalinae + Plusinae) pari al 62%.

Inoltre si segnalano tre specie per la prima volta in Puglia (*Tathorhynchus exsiccata*, *Autophila limbata*, *Pandesma robusta*) e quattro specie per la prima volta nel Salento (*Catephia alchimista*, *Minucia lunaris*, *Catocala conjuncta*, *Thysanoplusia orichalcea*).

### SUMMARY

This is the second contribution to the knowledge of the Noctuoidea of Salento and deals with the data of three subfamilies extrapolated from the general work on the Noctuidae and Erebidae of the Salento, still in preparation.

Material which the observations are based on is stored in the Natural History Museum of Salento (NHMS) collection and in the first author's private collection.

Collecting methods and genitalia dissection procedures are described in DURANTE and POTENZA (2016).

This research was carried out in the Salento Peninsula, especially its southern part, as better specified in DURANTE and POTENZA (2016).

Despite of a high degree of anthropization, the Peninsula of Salento appears always a surprising land. In the previous paper (DURANTE and POTENZA, 2016) the authors examined the tribus Hadenini e Glottulini (subfamily Hadeninae Guenée, 1837, *old sense*, actually in Noctuidae Latreille, 1809), finding the presence of the 56% of the fauna of the whole Puglia. The present study confirms that datum, being the total percentage of the three subfamilies (i.e. Heliothinae + Catocalinae + Plusinae) equal to 62%.

In addition we found three species recorded for the first time in Puglia (*Tathorhynchus exsiccata*, *Autophila limbata*, *Pandesma robusta*), and four species recorded for the first time in Salento (*Catephia alchimista*, *Minucia lunaris*, *Catocala conjuncta*, *Thysanoplusia orichalcea*).

## INTRODUCTION

This second contribution to the knowledge of the Noctuoidea of Salento, being the first DURANTE and POTENZA (2016), deals with the data of three subfamilies extrapolated from the general work on the Noctuidae and Erebidae of the Salento, still in preparation.

Unfortunately, the data concealed in the Natural History Museum of Salento (MSNS) collections are studied with very scarce finances, and this leads to a slow preparation of the publishable manuscripts.

In the present contribution three subfamilies are dealt with, basing the results both on bibliographic and original data. A valuable contribution derives also from inedited data kindly provided from PARENZAN (*in littera*).

## MATERIAL AND METHODS

Material which the observations are based on is stored in the MSNS collection and in the first author's private collection.

Collecting methods, genitalia dissection procedures, and photographic techniques are described in DURANTE and POTENZA (2016).

The systematic list for the subfamilies Heliothinae, Catocalinae and Plusinae basically follows the FIBIGER and HACKER's (2005) list, although other au-

thors were examined (KITCHING and RAWLINS, 1999; GOATER *et al.*, 2003; RONKAY *et al.*, 2008; FIBIGER *et al.*, 2009; BEHOUNEK *et al.*, 2010; RONKAY *et al.*, 2014).

For genitalia nomenclature, reference was made to KLOTS (1970) and BERIO (1985); for wing pattern, to BERIO (1985); and for wing venation, to WOOTTON (1979).

The Italian distribution is derived mainly from BERIO (1985: 1991), PARENZAN and PORCELLI (2006, 2007), whereas the Salento distribution is based on the authors' observations, unless otherwise specified.

This research was carried out in the Salento Peninsula, especially its southern part, as better specified in DURANTE and POTENZA (2016).

## RESULTS AND DISCUSSION

The collections of moths carried out in the Salento Peninsula over the course of a decade showed the presence of four species of the subfamily Heliiothinae, nineteen species of the subfamily Catocalinae, and eight species of the subfamily Plusiinae.

The following list presents only the Italian distributional data, except for very interesting species.

Comparison with world distribution, evaluation of morphological differences and phenology will be discussed in the general forthcoming paper on the families Noctuidae and Erebidae.

Despite of a high degree of anthropization, the peninsula of Salento appears always a surprising land. In the previous paper (DURANTE and POTENZA, 2016) the authors examined the tribus Hadenini and Glottulini (subfamily Hadeninae Guenée, 1837, *old sense*, actually in Noctuinae Latreille, 1809), finding the presence of the 56% of the fauna of the whole Puglia. The present study confirms that datum, being the percentages of the three subfamilies, compared to the whole Puglia region, as follows:

subfamily Heliiothinae: 67%; subfamily Catocalinae: 61%; subfamily Plusiinae: 62% and total percentage (*i.e.* Heliiothinae + Catocalinae + Plusiinae): 62%.

In addition we found four species recorded for the first time in Salento, and three species recorded for the first time in Puglia.

New for Puglia: *Tathorhynchus exsiccata* (Lederer, 1855), *Autophila limbata* (Staudinger, 1871), *Pandesma robusta* (Walker, [1858]).

New for Salento: *Catephia alchimista* ([Denis and Schiffermüller], 1775), *Minucia lunaris* ([Denis and Schiffermüller], 1775), *Catocala conjuncta* (Esper, [1787]), *Thysanoplusia orichalcea* (Fabricius, 1775).

## SPECIES ACCOUNT

### SUBFAMILY HELIOTHINAE Boisduval, [1828]

#### ***Heliothis viriplaca* (Hufnagel, 1766)**

It is present throughout Italy, including Sicily (PARENZAN, 1979; PARENZAN and PORCELLI, 2006). It is also reported for Puglia (PARENZAN, 1979; PARENZAN and PORCELLI, 2006), and for Salento, where it was previously reported only for Veglie (PARENZAN, 1979). We add San Donato di Lecce.

#### ***Heliothis peltigera* ([Denis and Schiffermüller], 1775)**

It is present throughout Italy, including islands, and widespread and common in Puglia and in Salento. Recorded for Taranto, Torre Guaceto, Veglie, around Gallipoli, Otranto: Laghi Alimini (PARENZAN, 1979; PARENZAN and PORCELLI, 2006). Our observations refer to localities of Lecce, San Donato di Lecce, Rauccio, San Cataldo, Torre Specchia, Torre dell'Orso, Otranto: Laghi Alimini, Muro Leccese.

#### ***Heliothis nubigera* (Herrich-Schaffer, 1851)**

It is widely distributed in Italy (PARENZAN, 1979; PARENZAN and PORCELLI, 2006). It is also recorded in Puglia (PARENZAN, 1979; PARENZAN and PORCELLI, 2006), and in Salento, where it is reported for Veglie (PARENZAN, 1979).

#### ***Helicoverpa armigera* (Hübner, [1803-1808])**

It is widespread in all Italian regions, including islands (PARENZAN, 1979). It is widely distributed in several localities of Puglia, and reported for Salento in Torre Guaceto, Porto Cesareo, Gallipoli: Baia Verde, surroundings of Gallipoli (PARENZAN, 1979; PARENZAN and PORCELLI, 2006). Our observations add the localities of Otranto: Laghi Alimini, Vernole: Le Cesine, San Donato.

### SUBFAMILY CATOCALINAE Boisduval, [1828]

#### TRIBUS TOXOCAMPINI Guenée, 1852

#### ***Lyghephila cracca* ([Denis and Schiffermüller], 1775) (= *herrerai* Yela, 1990)**

*L. cracca* is common and widespread throughout Italy (PARENZAN, 1979; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). It is also reported for Puglia, and for Salento in Gallipoli: Baia Verde (PARENZAN, 1979; PARENZAN and PORCELLI 2006; BERTACCINI *et al.*, 2008).

***Tathorhynchus exsuccata* (Lederer, 1855)**

Palaeotropical-subtropical distribution (GOATER *et al.*, 2003). Occasional species in Europe (BERTACCINI *et al.*, 2008). In Italy, *T. exsuccata* is very rare and localized, reported only for few regions, as Umbria, Lazio, Calabria, Sicilia and Sardegna (PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). We recorded it in Otranto: Laghi Alimini, and San Donato di Lecce. New record for Puglia.

***Autophila (Autophila) limbata* (Staudinger, 1871)**

In Italy, *A. limbata* is very located in Maritime Alps and some Southern region (BERTACCINI *et al.*, 2008). It is more common and widespread in Sicily (BERTACCINI *et al.*, 2008). We reported it for Otranto: Laghi Alimini. New record for Puglia.

***Autophila (Cheirophanes) cataphanes* (Hübner, [1813])**

In Italy, it is located from Maritime Alps until Southernmost regions (BERTACCINI *et al.*, 2008). There is only one report for Puglia: a single specimen was reported for Salento in Lecce and kept in the Zoological Museum of University of Napoli (TURATI, 1911a; ZANGHERI, 1960; BERTACCINI *et al.*, 2008).

***Apopestes spectrum* (Esper, [1787])**

Species common and widespread throughout Italy (BERTACCINI *et al.*, 2008). It has already been reported for Puglia and Salento in Veglie: Torre Lupomonaco (PARENZAN, 1979; BERIO, 1991; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008).

**TRIBUS OPHIUSINI Guenée, 1837**

***Catephia alchymista* ([Denis and Schiffermüller], 1775)**

Fairly common species, but not frequent in Italy (BERTACCINI *et al.*, 2008). It has been recorded in Puglia (BERTACCINI *et al.*, 2008), but not in Salento. We reported it for localities of San Donato di Lecce, Calimera and Otranto. New record for Salento.

***Pandesma robusta* (Walker, [1858])**

With palaeotropical-subtropical distribution (GOATER *et al.*, 2003). *P. robusta* is a migrant species occurring in the Mediterranean basin, Southern Asia and the whole Africa. Found for the first time in Italy few years ago (BELLA and RUSSO, 1999; BERTACCINI *et al.*, 2008), it seems currently increasing its expansion on our territory (BERTACCINI *et al.*, 2008). We found it in San Donato di Lecce. New record for Puglia.

***Ophiura tirhaca* (Cramer, 1777)**

It is widespread in several Italian regions, but rather localized and scarce (PARENZAN, 1979; BERIO, 1991; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). It is reported for Puglia and also for Salento in Lido Silvana and in Otranto (PARENZAN, 1979; PARENZAN and PORCELLI 2006; BERTACCINI *et al.*, 2008). Our observations regard the sites of Veglie, Porto Cesareo: Masseria Serra d'Angeli, Monteroni, San Cataldo, Otranto: Laghi Alimini.

***Minucia lunaris* ([Denis and Schiffermüller], 1775)**

In Italy, it is widespread in all regions, but it is frequent in few localities (BERTACCINI *et al.*, 2008). It has already been reported for Puglia (PARENZAN, 1979; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008), but it wasn't found in Salento. We recorded it in Veglie, San Cataldo and MuroLeccese. New record for Salento.

***Clytie illunaris* (Hübner, [1813])**

Species widespread in several Italian regions including Puglia (PARENZAN, 1979; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). In Salento, it was recorded in Gallipoli: Baia Verde, surroundings of Gallipoli, Presicce Marina, San Cataldo (coll. Zilli) (PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). Our observations regard the sites of San Cataldo, Vernole: Le Cesine, Otranto: Laghi Alimini, San Donato di Lecce.

***Dysgonia torrida* (Guenée, 1852)**

Uncommon in Italy, with a greater presence in Sicily (BERTACCINI *et al.*, 2008). In exceptionally hot years, this species was observed in some Northern regions (BERTACCINI *et al.*, 2008). It has already been reported for Puglia, and for Salento in Latiano and in Salice Salentino (PARENZAN and PORCELLI, 1993; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008).

***Dysgonia algira* (Linnaeus, 1767)**

In Italy, *D. algira* is common and widespread throughout national territory (BERTACCINI *et al.*, 2008). It has lower occurrence in Alpine regions (BERTACCINI *et al.*, 2008). It is reported for Puglia and also for Salento, where it was found in Ceglie Messapica, Villa Castelli, Veglie, Lequile, Gallipoli: Baia Verde, Veglie: Torre Lupomonaco (PARENZAN, 1979; BERIO, 1991; PARENZAN and PORCELLI, 2006). Our observations regard the localities of San Cataldo, Torre Specchia, Otranto: Laghi Alimini, Vernole: Le Cesine, San Donato di Lecce, Muro Leccese.

***Grammodes bifasciata* (Petagna, 1787)**

In Italy, this species is very localized and rare in Alpine regions (BERTACCINI *et al.*, 2008). It is more widespread along Peninsula and in major islands

(PARENZAN, 1979; BERIO, 1991; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). It is reported for Puglia and also for Salento in Torre Guaceto, Veglie, Gallipoli: Baia Verde, Porto Cesareo: Serra d'Angeli, Otranto: Laghi Alimini, Lecce (PARENZAN, 1979; BERIO, 1991; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). Our observations add the localities of San Cataldo, Torre Specchia, Torredell'Orso.

***Grammodes stolidus* (Fabricius, 1775)**

In Italy, *G. stolidus* is widespread in all central-southern regions and major islands (PARENZAN, 1979; BERIO, 1991; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). In Alpine regions, this species is very localized and scarce (BERTACCINI *et al.*, 2008). It is widespread in Puglia and in Salento in Brindisi, Torre Guaceto, Villa Castelli, Ceglie Messapica, Manduria, Veglie, Veglie: Case Arse; Gallipoli: Baia Verde and Otranto: Laghi Alimini (PARENZAN, 1979; BERIO, 1991; IPPOLITO and PARENZAN, 1981; PARENZAN and SCALERCIO, 1996; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). Our observations also add San Cataldo, San Donato di Lecce, Porto Cesareo: Serra d'Angeli, Vernole: Le Cesine, San Cesario di Lecce, Calimera.

**TRIBUS CATOCALINI Boisduval, [1828]**

***Catocala (Catocala) nymphaea* (Esper, [1787])**

In Italy, the presence of this species in Alpine regions is essentially restricted to some xerothermic areas (BERTACCINI *et al.*, 2008). It has already been reported for Puglia and Salento in Taranto, Veglie: Case Arse (PARENZAN, 1984; BERIO, 1991; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008).

***Catocala (Catocala) conversa* (Esper, [1787])**

In Italy it is widespread in several areas, but generally with few reports (BERTACCINI *et al.*, 2008). It has already been reported for Puglia and Salento in Veglie: Case Arse, Otranto (PARENZAN, 1979; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008).

***Catocala (Catocala) nymphagoga* (Esper, [1787])**

Species is widespread throughout Italy (BERTACCINI *et al.*, 2008). It is reported for Puglia and also for Salento in Taranto, Veglie: Case Arse (PARENZAN, 1979; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). Our observations regard the localities of Vernole: Le Cesine, Porto Cesareo: Masseria Serra d'Angeli, San Cataldo, Otranto: Laghi Alimini, Muro Leccese, Ugento, San Donato di Lecce, San Cesario di Lecce, Calimera.

***Catocala (Catocala) conjuncta* (Esper, [1787])**

It has a discontinuous distribution in Northern Italy (BERTACCINI *et al.*, 2008), more widespread in peninsular regions and in major islands (BERTACCINI *et al.*, 2008). It is reported for Puglia, but not for Salento (PARENZAN, 1979; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). Our observations concern only the locality of Calimera. New record for Salento.

***Catocala (Catocala) elocata* (Esper, [1787])**

It is widespread throughout Italy (BERTACCINI *et al.*, 2008). It has lower occurrence in alpine area (BERTACCINI *et al.*, 2008). It is reported for Puglia and for several localities of Salento: Ostuni, Latiano, Veglie, Veglie: Torre Lupomonaco and Otranto (PARENZAN, 1979; PARENZAN and PORCELLI, 2006; BERTACCINI *et al.*, 2008). Our observations add the locality of San Donato di Lecce.

**SUBFAMILY PLUSIINAE Boisduval, [1828]**

**TRIBUS ABROSTOLINI Eichlin and Cunningham, 1978**

***Abrostola tripartita* (Hufnagel, 1766) (= *triplasia* auctt. nec Linnaeus, 1758)**

In Italy, it is present in all Northern regions, Marche, Basilicata, Sicilia and Sardegna, localized and uncommon (PARENZAN, 1979). It is present in Puglia (Foresta Umbra) and in Salento (Veglie) (PARENZAN, 1979, PARENZAN and PORCELLI, 2006).

**TRIBUS ARGYROGRAMMATINI Eichlin and Cunningham, 1978**

***Trichoplusia ni* (Hübner, [1803])**

Widespread in Southern Italy (PARENZAN, 1979), it is reported for Salento by PARENZAN (1979) and PARENZAN and PORCELLI (2006), in Veglie: Case Arse and Torre Lupomonaco, Torre Guaceto, Taranto: Mar Piccolo, and Gallipoli: Baia Verde. Our observations regard the localities of San Cesario di Lecce, Torre Specchia, San Donato di Lecce, San Cataldo, Otranto: Laghi Alimini, Calimera, Muro Leccese and Lecce.

***Thysanoplusia orichalcea* (Fabricius, 1775)**

It is not present in Northern Italy (PARENZAN and PORCELLI, 2006; 2007). Records for Piemonte, Lombardia, Alto Adige and Emilia refer to *Diachrysis chryson* (Esper, 1789) (PARENZAN and PORCELLI, 2006; 2007). It is reported for Puglia by PARENZAN (1979), PARENZAN (1984) and PARENZAN and PORCELLI (2006), but not for Salento. Our observation is the first for Salento in Torre Specchia.



***Thysanoplusia daubei* (Boisduval, 1840)**

Recorded in Liguria, Toscana and Arcipelago Toscano, Lazio, Basilicata, Puglia, Sicilia and Sardegna (PARENZAN, 1979; PARENZAN and PORCELLI, 2006), is reported for Salento by PARENZAN (1979) in Torre Guaceto and Veglie. Our observations concern the only locality of San Donato di Lecce.

***Thysanoplusia circumscripta* (Freyer, 1831)**

Reported for peninsular regions, and Sicilia and Sardegna (PARENZAN, 1979; PARENZAN and PORCELLI, 2006), it is present in Puglia (PARENZAN, 1979; PARENZAN and PORCELLI, 2006) and also in Salento (Otranto) (PARENZAN and PORCELLI 2006). Our observations regard Otranto: Laghi Alimini.

***Ctenoplusia accentifera* (Lefebvre, 1827)**

Present in several Italian regions: Piemonte, Liguria, Emilia, Toscana and Arcipelago Toscano, Lazio, Abruzzo, Basilicata, Campania, Calabria, Sicilia and Sardegna (PARENZAN, 1979, PARENZAN and PORCELLI, 2006; 2007). It is reported for Puglia and also for Salento in Torre Guaceto (PARENZAN, 1979). Our reports add two localities: San Cataldo and San Cesario di Lecce.

***Chrysodeixis chalcites* (Esper, [1789])**

Widespread throughout Italy, including the islands (PARENZAN, 1979), it is common and frequent in the South (PARENZAN, 1979). It is reported for Puglia and Salento (PARENZAN, 1979; PARENZAN and PORCELLI, 2006) in Gallipoli: Baia Verde, Gallipoli, Castro Marina. Our observations regard the localities of San Cesario di Lecce, Torre Specchia, Porto Cesareo: Masseria Serra d'Angeli, Torre dell'Orso and San Donato di Lecce.

**TRIBUS PLUSIINI Boisduval, [1828]**

**SUBTRIBUS PLUSIINA Boisduval, [1828]**

***Autographa gamma* (Linnaeus, 1758) (= *messmeri* Schadewald, 1992; = *voelkeri* Schadewald, 1992)**

Species widespread throughout Italy, including the islands (PARENZAN, 1979). PARENZAN (1979) indicates its presence for Salento in Veglie: Case Arse, and Torre Guaceto. Other reports are added by PARENZAN and PORCELLI (2006) for Castro Marina, Porto Cesareo: Masseria Serra d'Angeli, Gallipoli: Baia Verde. Our observations regard the localities of San Cesario di Lecce, Torre Specchia, Acaya, Cavallino, Leuca, San Donato di Lecce, Torre dell'Orso, Calimera, Lecce.

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